

Bird predation by the North American Snapping Turtle, *Chelydra serpentina* L.

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In North America predation of waterfowl by the Snapping Turtle, *Chelydra serpentina* can be considerable, according to the relative abundance of turtles and birds, but generally it is not regarded as a serious menace except possibly during the peak waterfowl breeding season. Otherwise, as a rule, birds are taken infrequently and constitute only incidental food. These turtles are most plentiful where there are shallow expanses of warm water with abundant stands of emergent and floating vegetation. Investigations during the period when predation is likely to be highest were carried out in eight areas in the Maine marshes, in the extreme north-east corner of the United States. 171 turtles were collected, and of the 157 in which food was present bird remains were found in about one in every four turtles. 42 turtles contained evidence of a minimum of 52 birds, which included 25 ducks, 11 grebes, 3 rails and 13 unidentified. The ducks were:— 7 Black Duck, *Anas rubripes* Brewster; 5 Ring-necked Duck, *Aythya collaris* (Donov.); 3 Golden-eye, *Bucephala clangula* (L.); 2 Wood Duck, *Aix sponsa* (L.); 2 Blue-winged Teal, *Anas discors* L.; 2 obscure surface-feeders and 4 unidentified.

Most were young birds of up to six weeks, but there were three adults; usually one bird only had been taken, but a 31 lbs turtle contained five birds, *viz.* one Ring-necked Duck, one Golden-eye and three Pied-billed Grebes or Dabchicks, *Podilymbus podiceps* (L.); and a 24 lbs example had eaten two Black Ducks, one unidentified surface-feeding duck and one grebe. Four other Snapping Turtles, varying from 11 lbs to 41 lbs had each taken two birds. Surface-feeding ducks were taken twice as frequently as diving ducks, although both groups were equally plentiful.

Field observations of turtles actually catching birds provided strong circumstantial evidence that most stomach material was from direct predation, though a proportion of carrion is taken. Evidence of duck remains may be found in digestive tracts for as long as twelve days.

During five seasons' (1949–1953) investigations in six different areas, bird remains in the turtles caught varied from 42 per cent to 17 per cent, with an average of 27 per cent. In 1949 when water was low and density of both turtles and ducks high, 13 (42 per cent) out of 31 turtles taken in one locality during a nine-days period contained a total of 18 birds— 9 ducks, 5 grebes, 1 rail and 3 unidentified. In this locality in the same period the duckling hatch was estimated to be 192, of which about four per cent *viz.* 8 ducklings and one duck were taken by Snapping Turtles. One turtle was captured for every eight acres of water surface, and as the great majority of turtles are never seen and many others are preying at the same time, it is possible that the total mortality these reptiles caused to the duck population was as much as 13 per cent. But mortality is only significant when both turtles and ducks are abundant.

Of 21 turtles examined from a Michigan pond of about 20 acres water surface, with a nesting waterfowl population in excess of one pair per acre, three contained a total of four Mallard, *Anas platyrhynchos* L.

At a waterfowl refuge in Vermont, during 1950, ducklings were found in four out of ten turtles examined, yet in the same locality, during 1951, birds were found in but two out of 23 turtles.

In another investigation, out of 25 turtles caught in thirteen days, eight (32 per cent) contained evidence of 10 ducks and two grebes.

106 turtles which were trapped in 39 days scaled a total of one ton, an average weight of 21 lbs.

I am most grateful to all those who have so kindly assisted me with information and references.

References:

- 1943 Alexander, Maurice M. Food habits of the Snapping Turtle in Connecticut. *Journal Wild Life Management*, 7 (3), 278-282.
 1943 Lagler, Karl F. Food habits and economic relations of the Turtles of Michigan with special reference to fish management. *Amer. Midl. Nat.*, 29 (2), 257-312.
 1954 Wright, Bruce S. *High Tide and East Wind*. The story of the Black Duck.
 1957 Coulter, Malcolm W. Predation by Snapping Turtles upon Aquatic Birds in Maine Marshes. *Journal Wild Life Management*, 21 (1), 17-21.

Note on the Paradise Flycatcher *Terpsiphone viridis* (Müller) in Southern Africa

by FINN SALOMONSEN

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Having read the interesting paper by W. J. Lawson in *Bull. B.O.C.* vol. 82, 1962, p. 26 on *Terpsiphone viridis* I feel it necessary to add a few comments. Lawson divided the pale-throated populations into two forms, a southern one, *violacea* (Grant & Mackworth-Praed), with white under tail-coverts, and a northern one, *plumbeiceps* Reichenow, with rufous under tail-coverts (the difference being best seen in males). However, Lawson apparently overlooked the fact that I have reached exactly the same result a few years ago (Salomonsen 1949: 84-87), although I had to draw another nomenclatorial conclusion. My study was primarily based on the large collection in The British Museum (Nat. Hist.), the Musée du Congo Belge in Tervueren and the Zoologisches Museum in Berlin. The difference between the two forms in question is clinal, the coloration of the under tail-coverts changing gradually from whitish to cinnamon in the populations of Portuguese Angola, Kasai and Northern Rhodesia. The type locality of *plumbeiceps* is Malange in Angola. Seven adult males from this locality were examined; of these two had white under tail-coverts, four yellowish and only one cinnamon (*cf.* the table on p. 85 in my paper). As specimens with yellowish under tail-coverts are sometimes found also in the southern populations, the birds from Malange appeared to be nearest to them, and the name *plumbeiceps* could, at any rate, not be used for the form with cinnamon under tail-coverts inhabiting S.E. Congo. Consequently, I described the northern form as a new subspecies and called it *subrufa*. To the north *subrufa* is replaced by *kivuensis* Salomonsen in Ruanda Urundi and parts of Kivu, further east by *sua-helica* Reichenow (of which *ungujaensis* and *ruwenzoriae* are synonyms). The differences between *plumbeiceps* and *violacea* are so slight, almost non-existent, that *violacea* must be regarded as a synonym to *plumbeiceps*. Lawson is right when presuming that even the northern form (*subrufa*) migrates to the north in the non-breeding season; several specimens have been found in the rain forests as far north as Kunungu (near Bolobo) in northern Congo.

References:

- Lawson, W. J., 1962. On the distribution of the races of the Paradise Flycatcher, *Terpsiphone viridis* (Müller) in Southern Africa. *Bull. Brit. Ornith. Club* 82, pp. 26-30.
 Salomonsen, F., 1949, Two New African Paradise-Flycatchers (*Terpsiphone*). *Dansk Ornith. Foren. Tidsskr.* 43, pp. 84-87.